

REFU*sol* 50K-3T

The power for mid-size PV plants

- Multi MPP-Tracking
- Separate connection area
- New REFU*sol* series

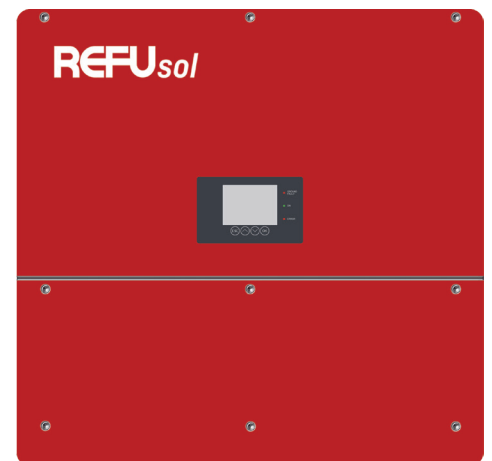
The completely new REFU*sol* inverter is developed for a maximum of flexibility in commercial and industrial PV systems.

With three MPP trackers, each system design can be realized, including different orientations and tilts. Compact dimensions paired with a high power density per weight gives more installation location flexibility – on the rooftop or on ground mounted systems. With 50 kVA output power, it fits to any project size.

The inverters can be connected on the same RS485 Bus for monitoring and Park Control applications without the need for reconfiguration. Therefore, the devices are also best suited for extending existing PV plants equipped with legacy REFU*sol* inverters.

Surge protection devices type II are pre-equipped on the DC side for additional protection. Four digital inputs support the feed-in management (i.e. 0%, 30%, 60%, 100%).

The REFUlog monitoring portal comes for free with each inverter during the warranty period of 5 years. The Ethernet Stick for internet connection is supplied as standard, a WiFi Stick can be ordered as accessory.



TECHNICAL DATA

Technical Data
Art. No.

50K-3T
851P050.300

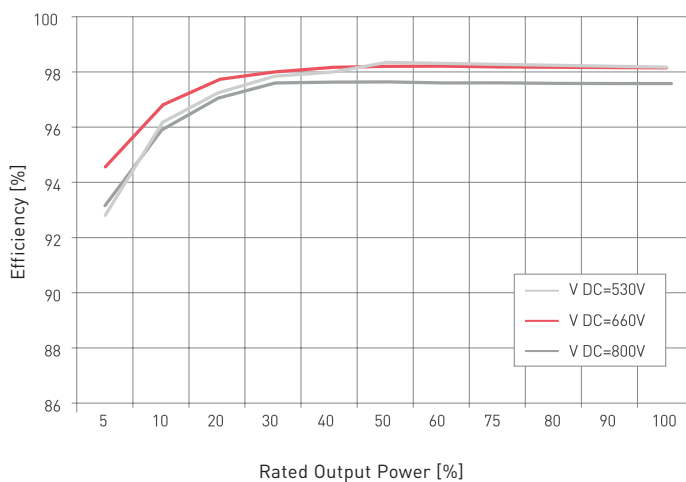
DC DATA

Max. recommended PV power (kWp)	66.5
Max. input voltage (V)	1,000
Operating input voltage range (V)	250 ... 960
Start-up input voltage (V)	350
Rated input voltage (V)	600
Number of independent MPPT	3
Number of DC inputs per MPPT	4 / 3 / 3
Rated power MPPT voltage range (V)	530 ... 800
Max. power per MPPT (kW)	22 / 16 / 16
Max. current per MPPT (A)	40 / 30 / 30
Max. short circuit current per MPPT (A)	48 / 36 / 36
DC Connection	Stäubli MC4

AC DATA

Rated power (kW)	50
Max. AC power (kVA)	50
Nominal grid voltage (V)	3/N/PE: 220/380, 230/400
Nominal grid frequency (Hz)	50, 60
Max output current (A)	80
Total harmonic distortion (THD) (%)	<3
Adjustable power factor range	0.8 inductive ... 0.8 capacitive
AC Connection	ring cable lugs (M8)

EFFICIENCY DIAGRAM



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PERFORMANCE

Max. efficiency (%)	98.5
Weighted efficiency (EU/CEC) (%)	98.3
Self-consumption at night (W)	< 1
Feed-in start power (W)	50
MPPT efficiency	>99.9%

PROTECTION

DC switch	integrated
Safety protection	Anti-islanding, DC reverse polarity, Overtemperature, Overvoltage, Overcurrent, RCMU, ground fault protection
String monitoring	each MPPT
String fuses	-
Protection class / overvoltage category	Class I / DC: Type II standard, AC: Type III standard
External environment pollution degree	3
Max. inverter back-feed current to the array (A)	< 6 mA
Output short circuit current (A)	128
Output inrush current (A)	116

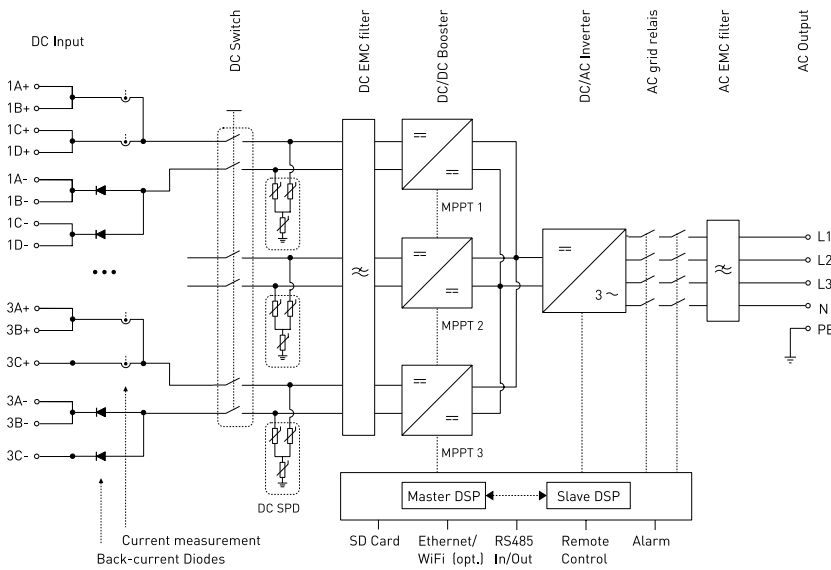
COMMUNICATION

Digital inputs	4 (0%, 30%, 60%, 100%)
RS485	yes
SD Card slot	yes
Ethernet	optional (Art. No. 924023)
WiFi	optional (Art. No. 924022)

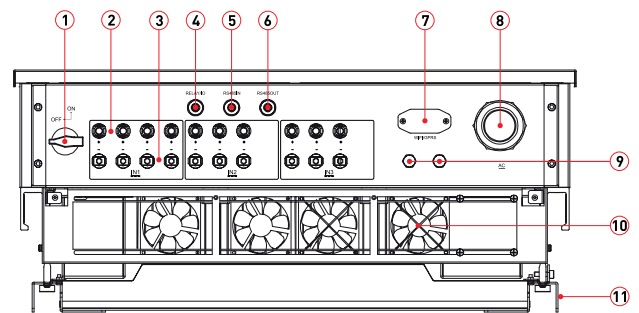
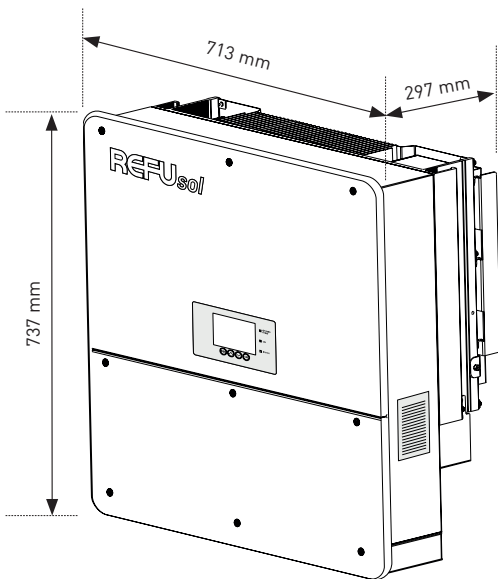
GENERAL DATA

Ambient temperature range (°C)	-25 ... +60 (above > 45 derating)
Topology	transformerless
Degree of protection	IP65
Allowable relative humidity range (%)	0 ... 100
Max. operating latitude (m above sea level)	4,000
Noise (dB)	< 60
Cooling	Fan
Dimension (H × W × D) (mm)	737 × 713 × 297
Weight (kg)	66,5
Display	LCD Display
Certification	EN 61000-6-2, EN 61000-6-4, EN 61000-3-11, EN 61000-3-12, IEC62109-1/2, IEC62116, IEC61727, IEC61683, IEC 60068(1,2,14,30), VDE 0126, EN50549-1, VDE AR-N 4105:2018-11, VDE 4110:2018-11
Warranty	5 years

SINGLE LINE DIAGRAM



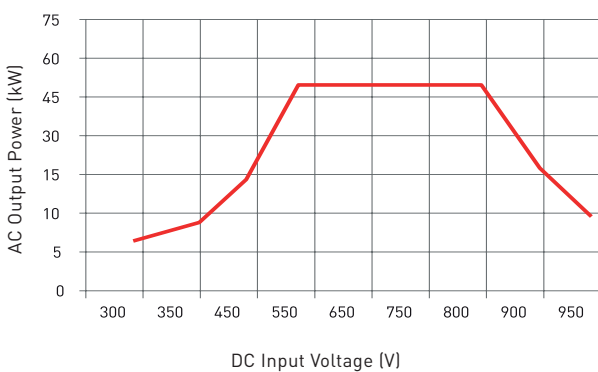
PRODUCT VIEW



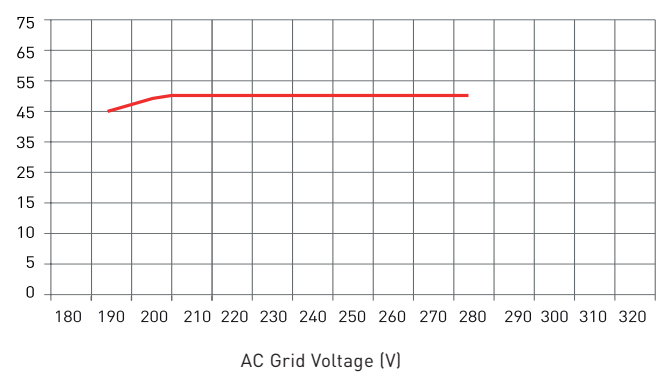
- 1 DC switch
- 2 DC+ connectors
- 3 DC- connectors
- 4 Relay contact
- 5 RS 485 input cable gland
- 6 RS 485 output cable gland
- 7 Ethernet/WiFi/GPRS connector
- 8 AC cable gland
- 9 Anti-condensation valve
- 10 Fans
- 11 Wall mount

PERFORMANCE DIAGRAMS

Output Power vs. Input Voltage



Output Power vs. Grid Voltage



No responsibility is taken for the correctness of this information. Subject to modification.